

Job Fairs:  
Matching Firms and Workers in a Field Experiment in Ethiopia

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**Abstract**

We test whether matching frictions, due to search costs and asymmetric information, reduce youth employment and affect firm recruitment and hiring practices. To do this we organised large job fairs where workers and firms meet with minimal search costs, and randomly invited job-seekers and firms drawn from samples representative of the labour market in Addis Ababa, Ethiopia. Despite the high number of participants and the many meetings and interviews that took place at the job fairs, we find that this intervention creates a modest number of jobs, about one job for every 10 firms invited. This is not enough to have aggregate impacts on either side of the market. We interpret these findings, along with detailed descriptive data on firm hiring procedures, as evidence of the complexity of the labour market matching process, and the challenge for active labour market policies to reduce search frictions for firms.

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# 1 Introduction

High youth unemployment is a major challenge for countries all over the world. Why are so many young people unemployed for such long periods of time after finishing education, but far more likely to be employed by the time they reach their early 30s? Panel and repeated cross sectional data shows that young people spend a long time searching for work, trying out different jobs, or getting discouraged, while later in life seem to settle into regular forms of employment.

Several distinct mechanisms could explain high youth unemployment. Workers may have different preferences during their 20s, they may choose not to work because of they have better outside options at home, and are forced to find gainful employment only when pressures related to marriage or supporting dependents force them into work.<sup>1</sup> On the other hand, workers may develop important skills throughout their 20s, through short term jobs and attempts at self-employment, which make them far more employable by their 30s.

Another set of theories are related to matching frictions ([Mortensen and Pissarides, 1994](#)). [Acemoglu and Shimer \(1999\)](#) suggest that these frictions can lead to different types of vacancies and lower productivity in the labor market. Informational problems may prevent young people from finding out what work suits them, including having unrealistic expectations about what kind of work they could reasonably find ([Blattman et al., 2015](#)), or matching frictions preventing firms and workers from matching matches that workers are happy to keep. Workers thus may spend many years figuring out what sort of work suits them, which firms they like to work at, and what sort of wages they can reasonably expect in labor market.

What role can policy play to reduce this volatility? This paper tests whether a key friction in the labor market is simply a lack of contact between workers and firms. Both firms and workers may be struggling to assess the relative merit of a particular worker, and working at a particular firm, respectively. Allowing both sides of the market to meet, in large numbers,

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<sup>1</sup> [Groh et al. \(2015\)](#) suggests that young people search for work with a reservation prestige for jobs in mind: that is they are picky about what kind of work they can get while they are young and have the option.

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should remove these frictions.

We randomly invite 250 firms and 1000 unemployed job seekers to two job fairs in the centre of Addis Ababa. The firms were some of largest firms in the city, across all of the main sectors, almost of all of whom were actively looking to hire new staff at the time of the fairs, while the young people were all searching for work, and had different education levels and diverse backgrounds. Firms and workers met for a day, and suggested matches were made to facilitate meetings. At one of the two job fairs the job seekers attending were randomly selected to receive a certification intervention. On both sides of the market, firms and workers, a random set were not invited to the fair, who serve as valid control groups, respectively.

Fairs are new institution that are not usually used in this labour market, but have begun to be used many human resource managers at the larger firms in the market (such as large multi-national firms). We attempt to introduce this method of recruitment to the rest of the market. We hypothesised that job fairs could improve workers and firms ability to find good matches. Both workers and firms have the opportunity to assess a large number of candidates at the same time, and draw inference about the distribution of job and worker quality, respectively.

Workers who are detached from the labour markey have very few oppurtunities to interact at the firms where they would like to get jobs: they rarely get interviews and have little work experience. For workers that are potentially good hires but have difficulty in signalling their abilities, the fairs could be a unique chance to impress firms. Other workers who may have unrealistic expectations about the kind of firms that they should apply to, may be able to learn that relatively quickly, change their expectations and thus find a good match a slightly lower quality job.

Similar mechanisms could be at play for firms: at fairs they have the chance to assess many potential applicants at once, and to get a realistic impression of the distribution of ability among the applicants in attendence, and thus make better informed decisions about whom to hire.

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The fairs are a break from the usual method of job search and recruitment whereby firms post vacancies on literal job boards, workers apply selectively, and firms assess workers on the basis of their CVs. This process is subject to high search costs for workers, and information assymetries because the limited information contained in CVs (Abebe et al., 2016). The fairs could prove a panacea for these problems for bringing many jobs and workers together.

However, the usual method of recruitment has the advantage of whittling down vast amounts of information, and candidates on both sides of the market, very quickly, through the directed-search nature of the application process. Workers make strategic decisions about where to apply based not only on their preferences for where they want to work, but also on where they think they have realistic chances of getting a job.

Job fairs, by contrast, may simply fail to capture the size of the market, and the amount of time it takes for firms to find the right candidates. Despite the number of job seekers in attendance at the fairs, that match may not be there for the firms. Many of the job-seekers simply will not get the jobs available at these formal firms. The fairs may then play a role in adjusting those workers' expectations, after observing the difficulty of getting such jobs.

We find no impact of the job fairs on job seekers' main employment outcomes. Similarly we find no impact on firms' hiring outcomes in the last year, nor on the types of workers they hired. This is not because workers and firms did not meet. In fact we find considerable evidence of meetings between workers and firms, and many interviews of workers, including during the weeks after the job fairs. Yet relatively few of those meetings translated into interviews or meetings after the job fairs. We find that a reasonably high number of these post-fair meetings did turn into job offers for workers. But we find that many workers rejected offers that were given to them.

We interpret this finding as evidence that recruitment and job-search are complicated processes. Frictions which prevent workers and firms from finding good matches may be very hard to remove through simple interventions, and instead firms and workers rely on directed

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search for long periods of time, often at some great expense.

We reject that the firms at the fair were not interested in looking for candidates. We show that most firms in the sample were intent on hiring, and did hire many candidates outside of the job fairs. Firms spend a great deal of cash on recruitment, receive many formal applications, and report spending a considerable amount of staff time on recruiting.

Similarly, job seekers search hard for employment, both at the fairs and elsewhere. We do find that workers reject offers made to them at the fairs. This is despite the fact that the firms were mostly formal, and usually pay salaries above the market average. We do not find evidence that workers reject offers in order to remain unemployed: workers who rejected firms offers continue to search for work in the following weeks, and are very likely to be working, elsewhere some weeks later. We measure very high rates of separations from jobs, as reported by firms, and very high employment volatility reported by workers.<sup>2</sup> This suggests a high level of idiosyncrasy in match quality between workers and firms, with workers spending a great deal of time looking for good matches, and trying out jobs at different firms.

Since our sample of job seekers was drawn in a representative way from the population of unemployed people in this labor market, we reject that firms simply were not exposed to the right population of workers. Rather it seems that firms would need to be exposed to a larger pool of candidates in order to have a high probability of finding a match.

This is the first experiment, to our knowledge, to try to study the effects of labor market matching programs on both workers and firms. A growing but relatively new literature looks at the effects of labor market interventions that aim to reduce information asymmetries on job search outcomes. The closest study to ours is [Beam \(2016\)](#) where workers are encouraged to attend a job fair in the Philippines geared towards placing workers in overseas jobs. This paper focusses on a remote rural sample who were not necessarily actively looking for jobs in an urban labor market, and finds that the job fairs changed people's perceptions of the labor market and encouraged job search in big cities (but had no effect on work overseas).

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<sup>2</sup> We use a high frequency phone survey to track employment and job-search outcomes over time.

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Similarly [Jensen \(2012\)](#) finds that remote rural dwellers increase their employment when they are given information about available vacancies at nearby towns.

Instead we focus on a sample of active job-seekers who already know the labor market well. Our design is not intended to shift job-seekers' information sets about the job market; rather, we aim to look at whether information frictions are playing a role in preventing these people from finding jobs. Similar work focussing in information frictions in large labor market includes [Groh et al. \(2015\)](#) who try to match workers and firm together on the basis of observables. They are unable to get workers to take up offers for jobs and interviews, who seem to opt to remain unemployed to look for better work. [Pallais \(2014\)](#) looks at how providing information about workers abilities, which they can credibly communicate to hiring firms, can improve their labor market prospects. Finally [Abebe et al. \(2016\)](#) conduct two parallel field experiments on how to get job seekers into jobs. They find that improving job seekers ability to engage in directed-search through the existing channels increases their probability of finding a good job. In the second experiment they find that by improving job seekers applications, with a certification program based on detailed testing, also improve employment outcomes by making job search more effective.

We extend this literature not only by testing job fairs as a new kind of intervention to reduce information frictions, but also by studying both sides of the market. We collect data on the recruitment decisions of firms where our job seekers looked for work, and estimate the impact of the job fairs on the firms by randomly providing invitations to the firms.

While a literature from developing countries suggests that job-placement services have large short-run effects on employment outcomes ([Card et al., 2010](#)), other work has shown that these effects could be displacing other workers ([Crépon et al., 2013](#)). A key research question is whether improved matching through any interventions of this kind can improve firms' ability to hire good workers; whether this is possible or not has important implications for whether such interventions can have an impact on the total number of jobs available, or whether the effects of all such programs are likely to be displaced elsewhere.

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There is almost no experimental work focussing on firm recruitment. While a growing literature uses field experiments with firms to test for binding constraints to growth faced by those firms (Bandiera et al., 2011), relatively little attention has been paid to how firms may be constrained by their inability to find the right workers to hire. Work on audit studies (Bertrand and Mullainathan, 2004) suggest that firms face time constraints that in some cases lead them to make sub-optimal hiring decisions based on statistical discrimination.

A large literature looks at how firm human resource management can improve firm performance Bloom and Van Reenen (2011). However, most of the empirical and experimental studies in this literature focus on performance pay. In a developing country context (Bloom et al., 2010) show that management practice consulting for firms, which includes performance-based incentive systems for workers, can improve firm productivity. There is relatively little work on recruitment and hiring as a tool of human resource management.<sup>3</sup> We contribute to this literature by studying how firms recruit for good positions, in a developing country, and by looking at how they respond to an opportunity to recruit in a completely new way.

The paper proceeds as follows: In Section 2 we discuss the data for the sample of job-seekers. Section 3 describes the firms used for the experiment, and the randomization procedures used to assign firms to treatment. Section 4 describes the job fair experiment, and how matching took place on the day. Section 5 presents the results on both the firm and job-seeker outcomes. Then in Section 6 we go on to discuss the results in light of the recruitment outcomes on the day, as well as offering conclusions.

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<sup>3</sup> Oyer and Schaefer (2010) review the literature on hiring, writing “The literature has been less successful at explaining how firms can find the right employees in the first place. Economists understand the broad economic forces—matching with costly search and bilateral asymmetric information—that firms face in trying to hire. But the main models in this area treat firms as simple black-box production functions. Less work has been done to understand how different firms approach the hiring problem, what determines the firm-level heterogeneity in hiring strategies, and whether these patterns conform to theory.”

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## 2 Job seekers data

We conduct the job fairs study with a representative sample of young unemployed people, living in disconnected areas of the city, in Addis Ababa. We defined geographic clusters using the Ethiopian Central Statistical Agency (CSA) enumeration areas.<sup>4</sup> Our sampling frame excluded clusters within 2.5 km of the centre of Addis Ababa, and clusters outside the city boundaries. Clusters were selected at random from our sampling frame, with the condition that directly adjacent clusters could not be selected, to minimise potential spill-over effects across clusters.

In each selected cluster, we used door-to-door sampling to construct a list of all individuals in the cluster who: (i) were 18 or older, but younger than 30; (ii) had completed high school; (iii) were available to start working in the next three months; and (iv) were not currently working in a permanent job or enrolled in full time education. We randomly sampled individuals from this list to be included in the study. Our lists included individuals with different levels of education. We sampled with higher frequency from the groups with higher education. This ensured that individuals with vocational training and university degrees are well represented in the study. All selected individuals were contacted for an interview.

We completed baseline interviews with 4388 eligible respondents. We attempted to contact individuals by phone for at least a month (three months, on average); we dropped individuals who could not be reached after at least three attempted calls. We also dropped any individual who had found a permanent job and who retained the job for at least six weeks. Finally, we dropped individuals who had migrated away from Addis Ababa during the phone survey. In all we were left with 4059 individuals who were included in our experimental study.

We collect data on study participants through both face-to-face and phone interviews. We complete baseline face-to-face interviews between May and July 2014 and endline interviews

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<sup>4</sup> CSA defines enumeration areas as small, non-overlapping geographical areas. In urban areas, these typically consist of 150 to 200 housing units.



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between June and August 2015. We collect information about the sociodemographic characteristics of study participants, their education, work history, finances and their expectations and attitudes. We also include a module to study social networks.

We also construct a rich, high-frequency panel dataset through fortnightly phone interviews. We call all study participants through the duration of the study. In these interviews we administer a short questionnaire focused on job search and employment. Franklin (2015) shows that high-frequency phone surveys of this type do not generate Hawthorne effects, for example, they do not affect jobseekers' responses during the endline interview.

## 2.1 Balance and Attrition

We find that our sample is balanced across all treatment and control groups, and across a wide range of outcomes. This includes outcomes that were not used in the randomisation procedure. We present extensive balance tests in Table ?? in the online appendix. For each baseline outcome of interest, we report the p-values for a test of the null hypothesis that all experimental groups are balanced. We cannot reject this null for any of variables that we study.

Attrition in our sample is low, especially compared to other studies of young adults in Sub-Saharan Africa (Baird et al., 2011; Blattman et al., 2013). In the endline survey, we find 93.5% of all participants. The probability of tracking original study participants is very similar across experiment groups. We cannot reject the null hypothesis that there are no differences in attrition rates between treatment and control individuals when we study each treatment individually, or when we run a joint test for all treatments. A number of covariates predict attrition. Since neither these variables, nor attrition, are correlated with treatment, we are not worried that this is affecting our results. Table ?? in the online appendix presents the analysis of attrition.

Attrition in the phone survey is also low, below 5% in the early months of the calls. We find that while attrition increases in the later week of the study, we are still able to contact

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more than 90% of respondents in the final month of the phone survey. Figure ?? in the online appendix shows the trajectory of monthly attrition rates over the course of the phone survey.<sup>5</sup>

### 3 Firm data

We surveyed 498 large firms in Addis Ababa. We sampled these firms to be representative of the largest employers in the city, stratified by sector. We included all major sectors in the economy, including construction, manufacturing, banking and financial services, hotels and hospitality, and other professional services.

For the sampling exercise we constructed a list of the largest 2,178 firms in Addis Ababa. Since no firm census exists for Ethiopia we formed our own firm sample using a variety of data sources. In all, we gathered data from over 8 different sources, many came from government-maintained lists of formal firms, from each ministry for the respective sector covered by that ministry. For the manufacturing sector we used a representative sample of the largest firms from the Large and Medium Enterprise surveys, conducted by the Central Statistics Agency (CSA). Where firm size was available for the various sources, we imposed a minimum size cut-off of 40 workers. In other cases we requested lists of the largest firms in each sector.

We drew the firms in our sample using sector-level weights that reflect the number of *employers* in that sector in the city. We constructed these weights using representative labour force data. Table 4 shows the number of firms surveyed in our sample, divided into 5 main categories. Column (2) provides weighted percentages obtained by applying the inverse of the weights used to sample the firms. For instance we surveyed NGOs (“Education, Health, Aid”) relatively infrequently because of the large number of NGOs in the data.

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<sup>5</sup> We do not report attrition rates at the very beginning of the phone survey since many respondents were only contacted for the first time in months 2 and 3 of the phone survey, either because they were surveyed towards the end of the baseline survey, and because of lags in setting up the phone survey.

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< **Table 4 here.** >

The firms are, on average, very large by Ethiopian and African standards. The mean number of employees per firm is 171.5 workers, but this masks considerable heterogeneity, particularly in the Tours & Hospitality sector, which is dominated by relatively small hotels and restaurants. Average firm size, when this sector is excluded, is 326 workers per firm. These firms size numbers are given in Table XX below. Note that these numbers exclude casual daily labourers: firms report employing 34 casual labourers on an average day.

< **Table 2 here.** >

The firms in our sample are growing in size and looking to hire new workers. On average, the number of workers that firms expected to hire in the next 12 months amounts to 12% of their current workforce. The most common types of workers which firms expected to hire were white collar workers, usually requiring university degrees.

< **Table 3 here.** >

### **3.1 Randomization and balance**

We assigned firms to either a treatment group or a control group using block level randomization techniques suggested by [Bruhn and McKenzie \(2009\)](#). Firms in the treatment group were invited to attend the job fairs, while firms in the control group did not receive an invitation. The following method was used to group firms together: firstly, firms were partitioned by five main groups of industry, defined in table 4 below. Then firms were partitioned into nearest neighbour groups of 4 firms on the basis of Mahalanobis distance defined over the set of variables listed in Table ???. After that we randomized the firms into two groups in each block of 4 firms: two firms were invited to the job fairs, one firm on each of the days, at random. The other two firms in the group were assigned to the control group, who were not to be invited to the fairs.

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Additionally, we assigned treatment using a re-randomisation method. Following the recommendations of [Bruhn and McKenzie \(2009\)](#), we will control in our estimations for the baseline covariates used for re-randomisation (that is, the set of variables described in Table 5) and for the baseline covariates used to construct the randomisation blocks.<sup>6</sup>

< **Table 4 here.** >

< **Table 5 here.** >

With this sample we have 78% power to detect a small treatment effect, of only 0.2 standard deviations, on the total number of pay-roll employees, using a significance level of 0.05%.

### 3.2 Attrition

Rates of attrition are remarkably low in this sample. Among 493 firms that were interviewed in the baseline survey, we were able to contact 478. Thus, only 15 firms (3%) could not be re-interviewed. Of these, 8 belong to the treatment group and 7 to the control group. Attrition is thus not correlated with treatment in our study.

### 3.3 Phone surveys

We conducted mid-line phone surveys with firms before the first job fair, between the job fairs, and after the final job fairs. Between 4 and 2 weeks before the job fairs took place we phoned firms to ask them about their current set of available vacancies. For those firms attending the fairs, this information was used to match firms and workers together, based on observable characteristics of workers, and the corresponding available vacancies.

In addition, in order to measure whether treated firms changed their recruitment methods and obtained different hiring outcomes right after the job fairs, we phoned all firms one month after the job fairs to ask them about their recent hiring experience. We asked questions about a roster of their recent vacancies, and about the firms' experiences with filling those vacancies.

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<sup>6</sup> Details of these variables and how they are defined are contained in our detailed pre-analysis plan.

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## 4 Design and Implementation

We invited treated jobseekers and treated firms to attend two job fairs. The first fair took place on October 25 and 26 2014. The second fair took place on 14 and 15 February 2015. We ran two fairs to ensure that each jobseeker and firm would have the chance to participate in at least one of them. The job fairs were held at the Addis Ababa University campus, a central and well-known location in the capital city. To minimise congestion, each job fair lasted two days and only half of the firms and jobseekers were invited to attend on each day. The firms that were invited to attend on Saturday 25th (Sunday 26th) of October were then invited to attend on Sunday 15th (Saturday 14th) of February. On the other hand, jobseekers invited to attend on the Saturday (Sunday) of the first fair were also invited to attend on the Saturday (Sunday) of the second fair. This ensured that, in each job fair, jobseekers were exposed to a different pool of firms and firms were exposed to a different pool of jobseekers

At the beginning of both fairs, we gave jobseekers (i) a list of all firms invited to the fair and (ii) a list of recommended meetings. We created these recommended meetings using information on firms' vacancies obtained from the phone survey which we run shortly before the fairs (see the data section). After creating a ranking of workers for each vacancy and a ranking of vacancies for each worker, a matching algorithm matched workers and firms.

In the second fair, we introduced two further elements. First, we gave jobseekers the list of all vacancies, on top of the list of firms. Second, we gave firms a list of all jobseekers invited to the fairs, with some information about their educational qualifications and previous work experience. We asked firms to indicate up to 10 jobseekers that they would like to talk to at the job fair. These 'requested meetings' were posted on a small board a few hours after the beginning of the fair. We plan to do in-depth analysis using data on recommended and requested meetings in future drafts of the paper.

During each fair, workers and firms were free to interact as they preferred. Each firm set up a stall before the job seekers arrived. These stalls were typically manned by the firm's HR

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staff, who brought with them printed material advertising the firms. In a typical interaction, a jobseeker would approach the stall of a firm and ask questions about the firm and its vacancies. The firm's HR staff would then often also ask about the jobseeker's skills and experience and check his or her CV. If the jobseeker looked suitable for one of the vacancies, the firm would then invite her or him to attend a formal job interview a few days after the job fair.

In total, we invited 1,007 jobseekers and 245 firms to attend fairs. Both jobseekers and firms were contacted over the phone, were given some information about the nature of the fairs and had the opportunity to ask questions.

We did not restrict the invitation to the fair to unemployed jobseekers or to firms that had open vacancies. However, only about 8% of jobseekers had permanent jobs by the time of the first job fair, and thus most jobseekers were still searching for work. Similarly, most firms were hiring during the period that the job fairs were held. 89% hired at least one worker in the year of the experiment. On average firms hired 52 workers in the year and 4 workers in the month after the job fairs.

606 workers and 130 firms attended at least one job fair. Take up rates were thus 60 percent for jobseekers and 53 percent for firms. The most common reason that jobseekers gave for not attending the fairs was that they were busy during that particular weekend. This reason was given by 226 jobseekers in the first fair and 229 jobseekers in the second fair. Other reasons included not being able to take up a job at that time (83 respondents for the second fair, but only 9 respondents for the first fair) and finding that the fair venue was too difficult to reach (31 respondents for the first fair and 25 respondents for the second fair). Further, 30 of the 115 firms that did not attend the fairs reported that this was because they did not have vacancies at the time. The remaining firms often cited reasons related to logistics and previous commitments. 13 firms reported that they thought they would not find the job fairs useful.

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## 5 Results

### 5.1 Impact on firms

In this section we analyse the impact of the job fairs on our sample of firms, following our pre-analyse plan.<sup>7</sup> We divide outcomes into families of similar outcomes. For each outcome of interest we run a regression of that outcome on a dummy variable equal to 1 if the firm was invited, the lagged dependent variable, and a set of covariates used for the randomization. We do not cluster our standard errors since randomization was conducted at the firm level. Firms are spread across the city and might reasonably be thought to operate in the same large labour market.

We estimate:

$$y_i = \beta_0 + \beta_1 \cdot \mathbf{fairs}_i + \alpha \cdot y_{i,pre} + \boldsymbol{\delta} \cdot \mathbf{x}_{i0} + \mu_i \quad (1)$$

In this specification, the “balance” variables included in  $\mathbf{x}_{i0}$  are all the variables listed in Table 5. Variable  $y_{i,pre}$  is simply the dependent variable measured at baseline.

Throughout this analysis we distinguish between professional workers: white collar employees, usually with some degree or diploma working in relatively highly trained positions, and non-professional workers: for factory firms this mostly constitutes labourers or “production” workers, for more service-based firms these include mostly “client services” (tellers, waiters, receptionists, etc.)

The main results on firm outcomes are presented in Tables 6, 7, 8, and 9 below.

We study whether the fairs had an impact on the firms recruitment processes, as measured by firms ability to fill the vacancies that they made available. We find no impact on these outcomes, on how long it took fill positions that were made available, or firms reported costs of recruitment. We do find a small but significant positive impact of the fairs on unfilled

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<sup>7</sup> Available at: <https://www.socialscisceregistry.org/trials/1495>.

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vacancies. That is, firms reported having more vacancies that they were unable to fill during the year. However, this effect does not survey multiple hypothesis testing corrections.

< **Table 6 here.** >

We the look at the impact of the job fairs on firm hiring outcomes at the main endline survey, which took place about 6 months after the second job fair. We find that no significant impact on the number of people hired by the firms in the last 12 months, nor on the types of people hired by the firms, whether it be hiring of candidates with degrees, or hiring more candidates on permanent contracts. This suggests that the job fairs did not significantly change how, and whom, firms hired, over the 12 month period.

< **Table 7 here.** >

Unsurprisingly, therefore, we find no impact of the firms overall work-force composition. We asked firms about their entire current workforce (not just workers hired in the last few months). We find no impacts on the types of contracts held by different workers, their starting salaries, or the firms assessment of how well qualified their workers are, on average.

< **Table 8 here.** >

Did the job fairs have no impact at all on the firms who attended? We study the impacts on firms recruitment activities outside of the job fairs. That is we asked firms about their methods of advertising for vacant positions, and whether they conducted interviews with the applicants who applied. We find that firms who had attended job fairs were significantly more likely to have done recruitment by advertising of workers in the last 12 months. Importantly they were significantly more likely to be using the job vacancy boards: the main place for attracting formal applications. This could be related to new information that firms learned at the job fairs. In future analysis, we plan to investigate the mechanisms that could be driving this result.

< **Table 9 here.** >



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## 5.2 Impact on job seekers

The results of the randomized controlled trial are reported in Tables 10, 11, and 12. The results show regressions of key employment and job search outcomes at an endline survey conducted 4 months after the last job fair with all job seekers in the sample, including all of those invited to the job fair. The regression estimate the effect of attending the job fairs, controlling for baseline characteristics, and with standard errors clustered at the level of the enumeration area in which respondents to live, to correct for the fact that the treatments were randomized at the level of the enumeration area. We report both a conventional  $p$ -value and a ‘sharpened’  $q$ -value (Benjamini et al, 2006). The  $q$ -values control the false discovery rate within the family of the seven hypotheses that we test for each program.

The results are not surprising, in light of the discussion above. We find that the job fairs have no significant effect on the endline employment outcomes of job seekers. The effect on key job quality outcomes such as “formal” work or “permanent” work are positive, but not significant. These estimates are very much in line with the results suggesting that about 14 job seekers found jobs at the large formal firms at the job fairs, which would not doubt have been formal and permanent contracts. This effect would register as a 1.5 percentage point increase in the probability of having a such a job.

< **Table 10 here.** >

The job fairs do seem to have had some effect on the search methods of those invited. We find that treated individuals were more likely to have found jobs by interview, although the effect is only marginally significant. We find that treated respondents were more successful in converting job applications into interviews, when applying for permanent jobs. This finding fits with the result that many job interviews came out of the job fairs, but that these job interviews did not always lead to job offers.

< **Table 11 here.** >

< **Table 12 here.** >

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## 6 Discussion and Conclusion

In this section, we combine data from jobseekers and firms' reports about the job fairs to investigate why the intervention did not have significant impacts on employment.

We find that 454 jobseekers (75% of those attending) have interacted with at least one firm at the job fair, according to jobseekers' reports. Of these, 69 jobseekers (11%) were then formally interviewed after the job fairs. The same jobseeker would typically contact multiple firms and would sometimes be interviewed by more than one firms. In total, we record 2191 contacts between firms and workers and 105 interviews. Finally, we find that 76 job offers were made at the fairs and 14 jobseekers (2%) were hired.

From these numbers, two pieces of evidence emerge. First, there was rich interaction between firms and jobseekers at the fairs. Second, this interaction lead to surprisingly few good matches. Let us discuss the second finding in more detail.

Overall, the jobseekers who attended a fair secured one interview every 21 informal inquires with the firms, one job offer every 1.4 interview and one job every 6.2 interviews approximately. Between our baseline and endline interview, on the other hand, jobseekers in our sample obtained an interview every 3.5 job applications, an offer every 1.9 interviews, and a job every 3.3 interviews. Thus, it seems that we can attribute the low employment effect to 2 separate causes:

- (i) Too few interviews were generated;
- (ii) The jobs offered after these interviews were generally not suitable for jobseekers, who refused them much more frequently than they typically do in the open market.

*Why were few interviews offered?* We can rule out that the firms did not have sufficient vacancies. Prior to arriving at the fairs, firms were surveyed to ask about their current vacancies: a roster of different positions that they were currently looking to hire for. We find that firms were hiring at the time of the fairs. On average, each firm was looking to

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hire for 2 different occupations, and had a total of 7 vacancies available, 30% of firms that reported on their vacancies told us that they had none at all. In total, going into the fair, firms were hiring for 711 different vacancies, and looking to hire a total of 1751 workers. The occupational composition of the vacancies available at the firms exhibits considerable overlap with the occupation composition of the job seekers invited to the job fairs.

We can also rule out that firms did not interact sufficiently with workers. Firms report meeting, on average, 20 job seekers per firm through the job fairs that they attended. Further, when in the second job fair firms were asked, based on lists of job seekers qualifications, whether there were individuals they were interested in interviewing, most responded positively, by listing the names of a number of candidates who were of interest to them.

One possibility is that the workers available at the the job fair were a poor match with the vacancies firms were looking to fill. In the phone questionnaire after the second job fair, we asked firm the rate the most employable jobseekers they met at the job fair, compared to the candidates that the firm would have selected for interviews through its normal recruitment channels. Only 12 percent of firms report that the most employable jobseeker would be in the top 20 percent of candidates in their usual recruitment round. 54 percent of firms, on the other hand, report that the most employable jobseeker at the fair would be in the *bottom* 50 percent of candidates in their usual recruitment.

This is consistent with the fact that the most common reasons firms reported for not hiring more jobseekers at the fairs are ‘insufficient work experience’ (34% of firms) and ‘wrong educational qualifications’ (23%).

On the other side of the market, even workers themselves report that they did not have the required experience for the firms present at the job fairs. Many reported that firms “asked for experience”, which few of them have in the formal sector. More than 65% reported that the main problem with the fairs was that there weren’t enough jobs for which they were qualified.

*Why were jobs acceptance rates so low?* When workers were able to progress to getting

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interviews and offers, find that workers seem to have been relatively reluctant to accept the offers that they received at the fairs. Yet we find that workers were generally impressed with the quality of the firms at the fairs. Most report finding the experience at least somewhat useful. Secondly, those workers who did get jobs at the fairs do seem to have received good jobs. We claim nothing causal here, but purely descriptively, jobs found at the fairs pay about 30% more than average earnings in our sample, and were more likely to be permanent, and satisfying to workers.

We take this to suggest that the good matches are hard to find from the workers' side as well as from the employers' side. This does not necessarily reflect a preference to remain unemployed among workers. Among those workers who received at least one offer from the job fairs, but rejected all of those offers, we find that their endline employment rate is 52%, which is only slightly lower than the average worker in the sample (57%), showing that these workers are willing to work, but the matches available to them at the job fairs may just not have been the right ones.

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# Tables

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Table 1: **Main industry classifications**

Industry	Firms in Sample	Total Firms (Weighted)
Tours-Hospitality	92	435
Finanace, Services, Retail	102	239
Education, Health, Aid	104	610
Manufacturing	126	301
Construction, Mining, Farming	69	593
Total	493	2,178



Table 2: **Firm size by sector**

Industry	Worker Type					All workers
	Client services	Production	Support staff	White collar		
Construction, Mining, Farming	2.7	92.7	21.7	21.8	143.2	
Tours-Hospitality	15.8	7.4	13.2	7.4	46.4	
Finance, Services, Retail	146.6	33.7	96.6	183.3	473.3	
Education, Health, Aid	12.6	5.2	31.2	73.6	131.0	
Manufacturing	24.4	149.0	37.4	33.7	250.2	
All Industries	26.9	52.4	33.1	52.8	171.5	

Table 3: Median rate of expected number of new hires in the coming 12 months, as a percentage of current workforce

Industry	Worker Type				All workers
	Client services	Production	Support staff	White collar	
Construction, Mining, Farming	0.0%	14.3%	9.2%	15.4%	20.0%
Tours-Hospitality	16.7%	10.8%	10.2%	10.6%	14.8%
Finance, Services, Retail	10.5%	6.3%	10.1%	16.0%	16.1%
Education, Health, Aid	4.5%	5.7%	5.0%	14.3%	13.0%
Manufacturing	0.0%	8.0%	1.6%	3.4%	8.8%
All Industries	7.4%	9.3%	7.4%	11.1%	12.6%

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Table 4: **Main industry classifications**

Main Industry	Freq.	Percent
Tours-Hospitality	92	18.66
Finanace, Services, Retail	102	20.69
Education, Health, Aid	104	21.1
Manufacturing	126	25.56
Construction, Mining, Farming	69	14
Total	493	100

Table 5: Summary for blocking/re-randomisation

	N	Mean	S.Dev.	1st Q.	Median	3rd Q.	Min.	Max.	P_val (F)
plc	493	0.51	0.50	0.00	1.00	1.00	0.0	1.0	0.963
ngo	493	0.13	0.34	0.00	0.00	0.00	0.0	1.0	0.958
Tours...	493	0.19	0.39	0.00	0.00	0.00	0.0	1.0	0.949
Finanace...	493	0.21	0.41	0.00	0.00	0.00	0.0	1.0	0.878
Education...	493	0.21	0.41	0.00	0.00	0.00	0.0	1.0	0.944
Manufacturing...	493	0.26	0.44	0.00	0.00	1.00	0.0	1.0	0.937
Construction...	493	0.14	0.35	0.00	0.00	0.00	0.0	1.0	0.940
stad_dist	491	4.93	8.85	1.96	3.42	5.80	0.2	123.6	0.886
total_n_all	493	288.11	972.98	37.00	87.00	225.00	4.0	18524.0	0.598
prop_p	493	0.29	0.23	0.10	0.21	0.45	0.0	0.9	0.921
prop_s	493	0.24	0.15	0.13	0.22	0.32	0.0	0.8	0.401
prop_w	493	0.26	0.29	0.00	0.17	0.50	0.0	1.0	0.863
prop_c	493	0.14	0.16	0.00	0.07	0.22	0.0	0.7	0.873
ed_deg	493	0.23	0.24	0.04	0.13	0.37	0.0	1.0	0.901
ed_dip	493	0.17	0.15	0.05	0.13	0.24	0.0	1.0	0.519
to_all	493	0.21	0.88	0.05	0.10	0.19	0.0	14.3	0.150
hire_all	493	54.45	218.42	4.00	11.00	35.00	0.0	3901.0	0.268
formal_adv	493	0.65	0.48	0.00	1.00	1.00	0.0	1.0	0.703
fairs	493	0.79	0.41	1.00	1.00	1.00	0.0	1.0	0.711
total_sales_n	339	554756.78	3.84e+06	7175.00	23017.00	121831.00	0.0	6.0e+07	0.492
av_sal	493	2885.07	3010.35	1303.03	1990.18	3190.00	0.0	27683.2	0.812
hire_exp	493	0.22	0.85	0.00	0.08	0.19	0.0	14.9	0.571

Table 6: **Firm Recruitment Outcomes in last year**

<i>Outcome</i>	Job Fair	Control Mean	N
time_fill_pro	-2.344 (.238) [.658]	24.11	338
time_fill_nonpro	0.724 (.679) [.909]	15.66	109
num_ints_pro	0.312 (.895) [.909]	8.818	361
pay_recruit_pro	746.7 (.469) [.909]	2818	382
pay_recruit_nonpro	-437.8 (.172) [.658]	1259	406
unfilled_vacancies	0.601 (.015)** [.101]	0.859	305

Table 7: **Firm Recruitment in Last Year: Worker Characteristics**

<i>Outcome</i>	Job Fair	Control Mean	N
new_hire_pro	-1.604 (.551) [1]	11.73	472
new_hire_nonpro	-9.704 (.183) [1]	44.64	472
hire_pro_degrees	-0.00800 (.845) [1]	0.574	473
new_hire_perm_pro	-0.00900 (.76) [1]	0.892	337
new_hire_perm_nonpro	-0.00800 (.791) [1]	0.876	308

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**Table 8: Firm Recruitment Methods**

<i>Outcome</i>	Job Fair	Control Mean	N
interviews_pro	0.0440 (.242) [.138]	0.682	473
interviews_nonpro	-0.0140 (.715) [.401]	0.607	473
advertised	0.0580 (.069)* [.074]*	0.789	473
advertised_pro	0.120 (.002)*** [.009]***	0.595	473
advertised_board	0.0960 (.021)** [.044]**	0.331	473

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Table 9: **Firm Total Workforce Composition**

<i>Outcome</i>	Job Fair	Control Mean	N
total_n_all	-18.38 (.268) [.847]	350.5	473
perm_prop_pro	0.0190 (.332) [.847]	0.908	462
perm_prop_nonpro	0.0280 (.169) [.67]	0.896	408
start_salary_pro	-90.01 (.708) [1]	4190	461
start_salary_nonpro	102.9 (.417) [.847]	1059	400
ed_deg_pro	-0.0570 (.033)** [.366]	0.645	461
ed_deg_nonpro	0.0370 (.172) [.67]	0.355	407
match_quality	0.00200 (.949) [1]	0.773	473



Table 10: **Worker Employment outcomes**

<i>Outcome</i>	Job Fair	Control Mean	N
Worked	-0.0120 (.731) [1]	0.562	3786
Hours worked	-1.109 (.559) [1]	26.20	3779
Formal work	0.0260 (.192) [1]	0.224	3786
Perm. work	0.0180 (.42) [1]	0.171	3786
Self-employed	0.00700 (.722) [1]	0.0950	3786
Monthly earnings	75.70 (.417) [1]	1145	3733
Satis. with work	0.0340 (.266) [1]	0.237	3786

Table 11: **Worker employment amenities**

<i>Outcome</i>	Job Fair	Control Mean	N
Received job by interview	0.0340 (.051)* [.339]	0.167	3786
Office work (7d)	0.0190 (.5) [1]	0.201	3786
Skills match with tasks	-0.0150 (.641) [1]	0.130	3786
Overqualified	0.0140 (.721) [1]	0.291	3786
Underqualified	-0.0210 (.326) [1]	0.0820	3786

Table 12: Worker job search outcomes

<i>Outcome</i>	Job Fair	Control Mean	N
Applied to temporary jobs	0.321 (.241) [.702]	1.311	3770
Applied to permanent jobs	0.0420 (.877) [.938]	2.279	3765
Interviews/Applications	0.0150 (.678) [.932]	0.354	2140
Offers/Applications	0.00200 (.976) [.938]	0.248	2141
Interviews/Applications (Perm)	0.0890 (.077)* [.702]	0.327	1660
Offers/Applications (Perm)	0.0880 (.099)* [.702]	0.164	1659
Interviews/Applications (Temp)	-0.0680 (.124) [.702]	0.389	1315
Offers/Applications (Temp)	-0.0590 (.29) [.702]	0.332	1315
Uses CV for applications	-0.0160 (.617) [.932]	0.401	3786
Uses certificates	0.0660 (.222) [.702]	0.479	3786